MODULE 6

LESSON 3

QUIZ

1. The first four terms of the geometric sequence with a first term of 64 and a common ratio of $\frac{1}{2}$ is ?

A. $64, 128, 256, 512$

B. $64, 32, 16, 8$

C. $64, 32, 8, 1$

D. $64, 63, 62, 61$

Go to answer 1

2. Find the nth term of the geometric sequence with $a_1 = 16$, $a_4 = \frac{27}{4}$, and $n = 3$.

A. $\frac{3}{4}$

B. 64

C. $\frac{9}{16}$

D. 9

Go to answer 2

3. If the first term of a geometric sequence is -5 and the common ratio is -2, then find the fifth term.

A. 80

B. -80

C. 48

D. -48

Go to answer 3

4. If the first term of a geometric sequence is 3, the common ratio is 2, and the last term is 96, then find the number of terms.

   A. 4

   B. 5

   C. 6

   D. 7

5. The sum of the indicated terms of the geometric sequence: $9, 27, 81, ...$(to 6 terms) is ?

   A. $13, 122$

   B. 729

   C. 6561

   D. 3276

6. The sum of the geometric sequence: $\frac{1}{18}, \frac{1}{4}, \frac{1}{2}, ...$(to 12 terms) is ?

   A. $\frac{4095}{8}$

   B. 512

   C. $\frac{625}{8}$

   D. 1345

7. If the first term of a geometric sequence is 27, the common ratio is $\frac{2}{3}$, and the last term is $\frac{16}{3}$, then find the sum of the terms.

   A. $\frac{209}{3}$

B. $\frac{211}{3}$

C. $\frac{213}{3}$

D. $\frac{214}{3}$

Go to answer 7

8. Evaluate:

$$\sum 12(-\frac{1}{2})^{n-1}$$

.

A. 384

B. $\frac{63}{8}$

C. $\frac{23}{4}$

D. 769

Go to answer 8

9. Find the sum of the infinite geometric sequence: $6 + 3 + \frac{3}{2} + ...$

A. 12

B. 24

C. 10

D. 28

Go to answer 9

10. Evaluate:

$$\sum 20(-\frac{1}{4})^{n-1}$$

A. 6

B. 10

C. 16

D. 24

Go to answer 10

11. Change 0.2222... to a rational number.

   A. $\frac{2}{9}$

   B. $\frac{3}{8}$

   C. $\frac{4}{9}$

   D. $\frac{5}{8}$

   Go to answer 11

12. Question.

   A.

   B.

   C.

   D.

   Go to answer 12

13. Question.

   A.

   B.

   C.

   D.

   Go to answer 13

14. Question.

    A.

    B.

    C.

    D.

    Go to answer 14

15. Question.

    A.

    B.

    C.

    D.

    Go to answer 15

16. Question.

    A.

    B.

    C.

    D.

    Go to answer 16

17. Question.

    A.

    B.

C.

D.

18. Question.

    A.

    B.

    C.

    D.

19. Question.

    A.

    B.

    C.

    D.

20. Question.

    A.

    B.

    C.

    D.

ANSWERS

1. Answer to Question 1 is "B".

   $a_1 = 64$. $a_2 = a_1 \cdot r = 64 \cdot \frac{1}{2} = 32$. $a_3 = a_2 \cdot r = 32 \cdot \frac{1}{2} = 16$, and $a_4 = a_3 \cdot r = 16 \cdot \frac{1}{2} = 8$

   Go back 1

2. Answer to Question 2 is "D".

   Go back 2

3. Answer to Question 3 is "B".

   Go back 3

4. Answer to Question 4 is "C".

   $a_1 = 3, r = 2, a_n = 96$

   $a_n = a_1 r^{n-1}$

   $96 = 3 \cdot 2^{n-1}$

   $32 = 2^{n-1}$

   $2^5 = 2^{n-1}$

   $n - 1 = 5$

   $n = 6$

   Go back 4

5. Answer to Question 5 is "D".

   Go back 5

6. Answer to Question 6 is "A".

   Go back 6

7. Answer to Question 7 is "B".

   $a_1 = 27, r = \frac{2}{3}, a_n = \frac{16}{3}$

   $a_n = a_1 r^{n-1}$

   $\frac{2}{3} = 27\left(\frac{2}{3}\right)^{n-1}$

   $\frac{16}{81} = \left(\frac{2}{3}\right)^{n-1}$

   $\left(\frac{2}{3}\right)^4 = \left(\frac{2}{3}\right)^{n-1}$

   $n - 1 = 4$

   $n = 5$

   $S_5 = \frac{27\left(\left(\frac{2}{3}\right)^5 - 1\right)}{\frac{2}{3} - 1} = \frac{211}{3}$

   Go back 7

8. Answer to Question 8 is "B".

   Go back 8

9. Answer to Question 9 is "A".

   Go back 9

10. Answer to Question 10 is "C".

    Go back 10

11. Answer to Question 11 is "A".

    Go back 11

12. Answer to Question 12 is "".

    Go back 12

13. Answer to Question 13 is "B".

    Go back 13

14. Answer to Question 14 is "".

    Go back 14

15. Answer to Question 15 is "".

    Go back 15

16. Answer to Question 16 is "C".

    Go back 16

17. Answer to Question 17 is "".

    Go back 17

18. Answer to Question 18 is "".

    Go back 18

19. Answer to Question 19 is "".

    Go back 19

20. Answer to Question 20 is "".

    Go back 20